

REMARKS

This Amendment is in response to the Office Action dated February 14, 2003. Claims 1-22 are pending in the application and were rejected. Applicants respond to the rejection of claims 1-22 as follows.

**Response to claim objections**

Claims 1-10 were objected to because "a first interface" should read "a first interface surface" and "a second interface" should read "a second interface surface. It is believed that the recitation of a first interface and a second interface in claims 1-10 is proper and Applicants respectfully request withdrawal of the objections to claims 1-10.

**Response to claim rejections - 35 U.S.C. § 102**

Claims 11-21 were rejected under 35 U.S.C. § 102(b) as being anticipated by Rabkin, U.S. Patent No. 5,828,223.

Claims 11-13 recite a means-plus-function limitation which is interpreted to include the corresponding structure disclosed in the specification and equivalents. See *In re Donaldson Co.*, 29 U.S.P.Q.2d 1845 (Fed. Cir. 1994). Claims 11-13 recite *inter alia* a fixture including a first interface having a plurality of interface terminals and a second interface having a plurality of interface terminals and a means for removably installing the fixture to a test engine to provide an electrical connection between the interface terminals on the first interface and the test engine which as properly construed is not taught nor suggested by Rabkin. Applicants' assembly provides an interchangeable fixture which can be selectively coupled to the test engine depending upon the configuration of the test circuit board which provides advantages over prior assemblies.

Claims 11-13 were rejected on the basis that Rabkin teaches a first interface 35 having a plurality of interface terminals 61 and a second interface 30 having a plurality of

interface terminals 40. Rabkin **does not** teach a second interface 30 having interface terminals 40 as recited in the Office Action.

Rabkin discloses a socket plate 30 having a plurality of apertures 31 for connection pins 27 of test boards 25 and a housing plate 35 including pin assemblies 40 mounted in apertures of the housing plate 35. Rabkin, Col. 3, lines 35-40 and Col. 4, lines 5-11. Accordingly, rejection of the claims based on the fact that interface surface or socket plate 30 includes a plurality of interface terminals 40 is erroneous and thus, fails to support a basis for rejecting the claims under 35 U.S.C. § 102.

Further, claims 11-13 were rejected on the basis that Rabkin discloses a test engine 62 and a means 70 for removably installing the fixture [30, 40, 61, 35] to the test engine 62 to provide an electrical connection between the interface terminals 61 on the first interface 35 and the test engine 62. Actuator 70 of Rabkin is operable to move socket plate 30 relative to housing plate 35 to mate the connector pins 27 supported in apertures 31 of socket plate 30 and pin assemblies 40 of the housing plate 35 (Rabkin, Col. 5, lines 5-32) and does not teach an actuator providing an electrical connection between terminals 61 on the housing plate 35 and the test engine 62 as set forth in the Office Action. Accordingly, rejection of claims 11-14 on the basis that Rabkin discloses means [70] for removably installing a fixture to the test engine to provide an electrical connection between the interface terminals on the first interface and the test engine as set forth in the Office Action is erroneous and should be withdrawn.

As properly interpreted, claims 11-13 are allowable over Rabkin *inter alia* on the basis that the socket plate 30 of Rabkin does not include first and second interfaces including a plurality of electrically coupled interface terminals and Rabkin does not disclose a means for removably installing the housing

plate 35 relative to the test engine 62. Reconsideration and allowance of claims 11-13 on the basis that the Office Action fails to establish a *prima facie* basis for rejecting the claims are respectfully requested.

Claims 14-19 recite a method for testing a circuit board comprising the steps of clamping a fixture having a first interface having a plurality of interface terminals and a second interface having a plurality of interface terminals electrically coupled to the plurality of first interface terminals and operating an actuator assembly to move the fixture from a first position spaced from a test device to a second position so that the terminals on the first interface electrically interface with terminals on the test device which is not taught nor suggested by Rabkin since as previously discussed socket plate 30 of Rabkin does not include first and second interfaces as claimed and Rabkin does not disclose an actuator to move housing plate 35 relative to the test engine 62 as claimed.

Similarly claims 14-19 were rejected on the basis that Rabkin discloses a second interface 30 including a plurality of interface terminals 40 and a means 70 for removably installing a fixture to a test engine to provide an electrical connection between the interface terminals 61 on the first interface 35 and the test engine 62 which as previously discussed is erroneous and therefore fails to establish a *prima facie* basis to reject claims 14-19.

Claims 20-21 recite a means for operably engaging a test circuit against a circuit board which is interpreted based upon the corresponding structure disclosed in the specification and equivalents as previously discussed. As properly interpreted, Rabkin does not teach or suggest the subject matter claimed as previously discussed. Accordingly, Applicants respectfully request reconsideration of claims 20-21 using a proper

interpretation of the claims under 35 U.S.C. § 112 and withdrawal of the rejection of claims 20-21 based upon Rabkin.

**Response to claim rejections - 35 U.S.C. § 103**

Claims 1-10 and claim 22 were rejected under 35 U.S.C. § 103 as being unpatentable over Wexler, U.S. Patent No. 5,436,567 in view of Rabkin, U.S. Patent No. 5,828,223. Claims 1-10 as amended, recite a fixture including a first interface having a plurality of interface terminals and a second interface including a plurality of interface terminals and an actuator coupled to the fixture to move the fixture between a first position and a second position and a clamp assembly adapted to selectively secure the fixture relative to the actuator which as amended, is not taught nor obvious in view of Wexler or Rabkin, alone or in combination.

As set forth in the Office Action, claims 1-10 were rejected on the basis that Wexler discloses an actuator operably coupled to the support member to move the fixture between a first position to support the fixture at a position spaced from the test device and a second position and that Wexler **does not disclose** an actuator operably coupled to the support member to move the fixture between a first position to support the fixture at a position spaced from the test device, but that Rabkin disclose an actuator [70] operably coupled to the support member [73, 74, 35] to move the fixture [30, 40, 61, 35] between a first position to support the fixture at a position spaced from the test device and thus the subject matter claimed is obvious.

As previously discussed actuator 70 of Rabkin is not coupled to housing plate 35 to move the housing plate 35 relative to test device 62 and thus the basis for the rejection fails to establish that the subject matter claimed is obvious over the recited combination of references. Thus, claims 1-10 were erroneously rejected on the basis that Rabkin discloses an actuator 70 coupled to support members [73, 74, 35] to move

fixture [30, 40, 61, 35] between a first position to support the fixture at a position spaced from the test device 62. In particular, as previously discussed, actuator 70 does not couple to housing plate 35 to move housing plate 35 between a first position and a second position but instead, actuator 70 is coupled to socket plate 30 to move socket plate 30 relative to the housing plate 35 to provide an electrical connection between the connector pins 27 extending through apertures 31 of socket plate 30 and header pin assembly 40 of the housing plate 35. Neither Wexler nor Rabkin teach or suggest an actuator and clamp assembly selectively connecting a fixture having first and second interfaces to a test device as claimed.

Furthermore dependent claims recite subject matter not taught nor suggested by Wexler or Rabkin alone or in combination. In particular, claim 22 is dependent upon claim 21 and is allowable over the recited combination of references. Claim 4 is dependent upon claim 1 and recites a clamp member including a head having an elongated dimension and a narrow dimension where the head is sized for insertion through a clamp opening in a first orientation and rotatable to a second orientation to align the elongated dimension of the head with a narrow dimension of the clamp opening to clamp the fixture which recites a clamp having a structural difference from that disclosed in Rabkin and Wexle. The relative dimensions recite a structural difference which performs differently than the prior art device and is patentably distinct over the prior art. Reconsideration and allowance of claim 4 over Rabkin and Wexler are respectfully requested.

Based upon the foregoing, reconsideration and allowance of claims 1-22 are respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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**MARKED-UP VERSION OF REPLACEMENT CLAIMS**

1. (Amended) A test fixture assembly for testing a printed circuit board comprising:

a fixture including a first interface having a plurality of interface terminals adapted to electrically couple the fixture to a test device and a second interface having a plurality of interface terminals adapted to electrically couple the fixture to terminals on the printed circuit board and the plurality of interface terminals on the second interface being electrically coupled to the plurality of interface terminals on the first interface;

~~a clamp assembly adapted to selectively secure the fixture relative to a support member; and~~

an actuator operably coupled to the ~~support member~~fixture to move the fixture between a first position to support the fixture at a position spaced from the test device and a second position to install the fixture relative to the test device to provide an electrical connection between the interface terminals on the fixture and the test device; and

a clamp assembly adapted to selectively secure the fixture relative to the actuator.

2. The test fixture assembly of claim 1 and further comprising a rotator coupled to the clamp assembly to rotate the clamp assembly between a first orientation to load the ~~test~~ fixture and a second orientation to clamp the ~~test~~ fixture for installation.

3. The test fixture assembly of claim 1 wherein the clamp

assembly includes first and second clamp members having opposed clamp surfaces to secure the fixture therebetween and one of said clamp members forms ~~the~~a support member to load the test fixture for installation.

4. The test fixture assembly of claim 3 wherein the fixture includes an elongated clamp opening having an elongated dimension and a narrower dimension and the other of said clamp members includes a head having an elongated dimension and a narrower dimension and the head is sized for insertion through the clamp opening in a first orientation with the elongated dimension of the head aligned with the elongated dimension of the clamp opening and the other of said clamp members being rotatable to a second orientation to align the elongated dimension of the head with the narrower dimension of the clamp opening to clamp the fixture relative to the one of said clamp members which forms the support member for installation.

11.(Amended) A test assembly comprising:

a fixture including a first interface having a plurality of interface terminals adapted to electrically couple the fixture to a test engine and a second interface having a plurality of interface terminals adapted to electrically couple the fixture to terminals on a printed circuit board and the plurality of interface terminals on the first interface being electrically ~~coupled~~connected to the plurality of interface terminals on the second interface; and

means for removably installing the fixture to the test engine to provide an electrical connection between the interface terminals on the first interface and the test engine.



12.(Amended) The test assembly of claim 11 wherein the means for removably installing includes a clamp assembly including opposed clamp members, one of said clamp members forming a support surface to load ~~at~~the fixture for installation and the other of said clamp members being positionable between a load position and a clamped position to clamp the fixture to a test engine.